

Robot Hand Software Instructions

文档版本 **V1.1.1.0**

软件版本 **V1.1.1.0**

协议 **RS485**

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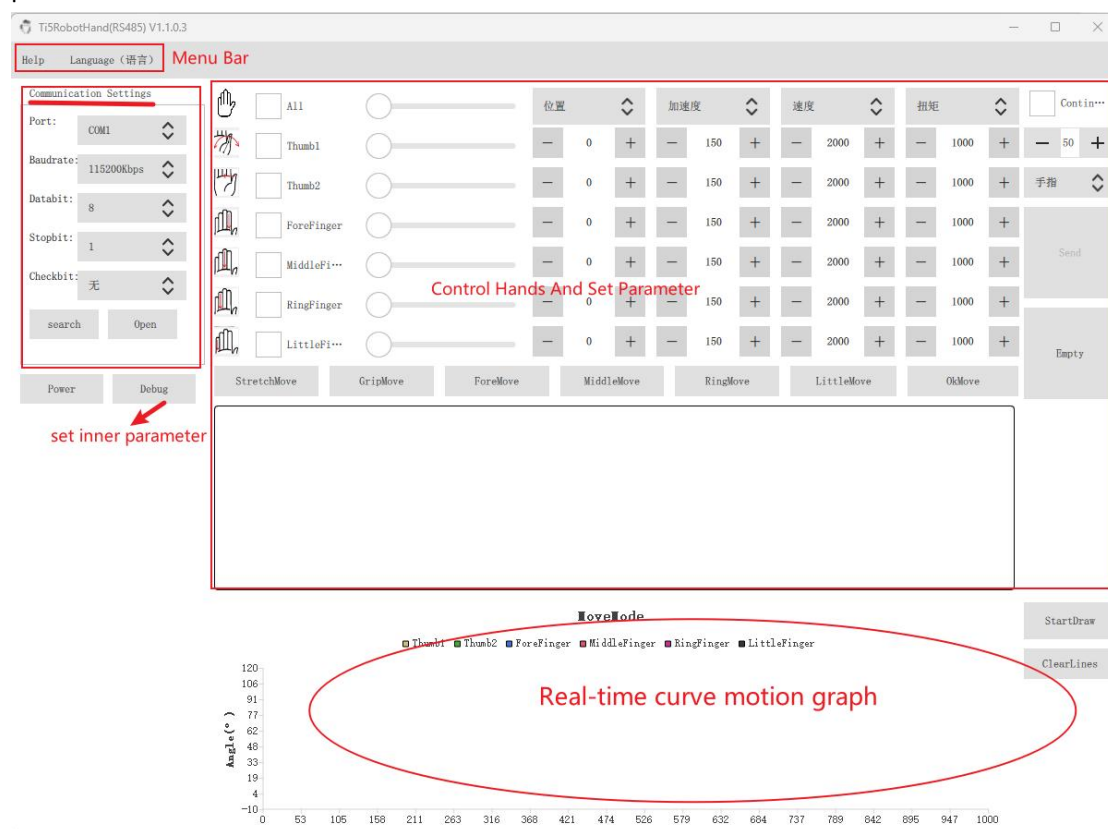
1The installation and operation of the upper computer

Ensure supply voltage 7V, current 3A. Users can send the executable file to the desktop for subsequent operations

2Functions Of The System

2.1System Interface

The software is mainly composed of six parts, 1. Menu bar, 2. Communication setting bar, 3. Control hand and setting parameters, 4. Real-time curve motion chart. 5. Set internal parameters.



2.2 Internal Status Settings interface

Click the "Stop painting" button, and then click the "Parameter setting" button to switch back and forth.

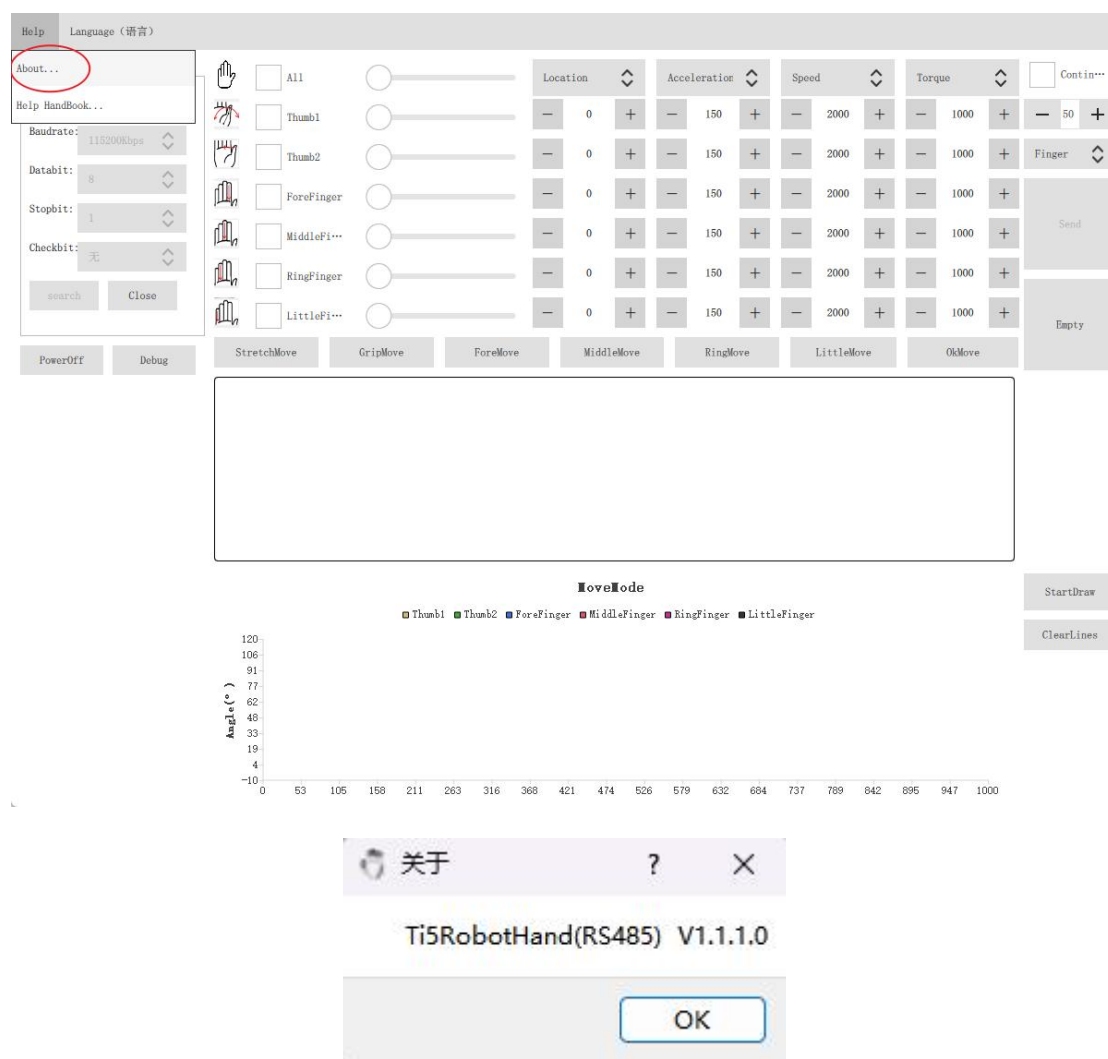
See Section 4 for details.

The Meaning Of Each Joint	6	The upper joint of the thumb
	5	The lower joint of the thumb
	4	Index finger
	3	Middle finger
	2	Ring finger
	1	Little finger

2.3 Menu Bar Interface

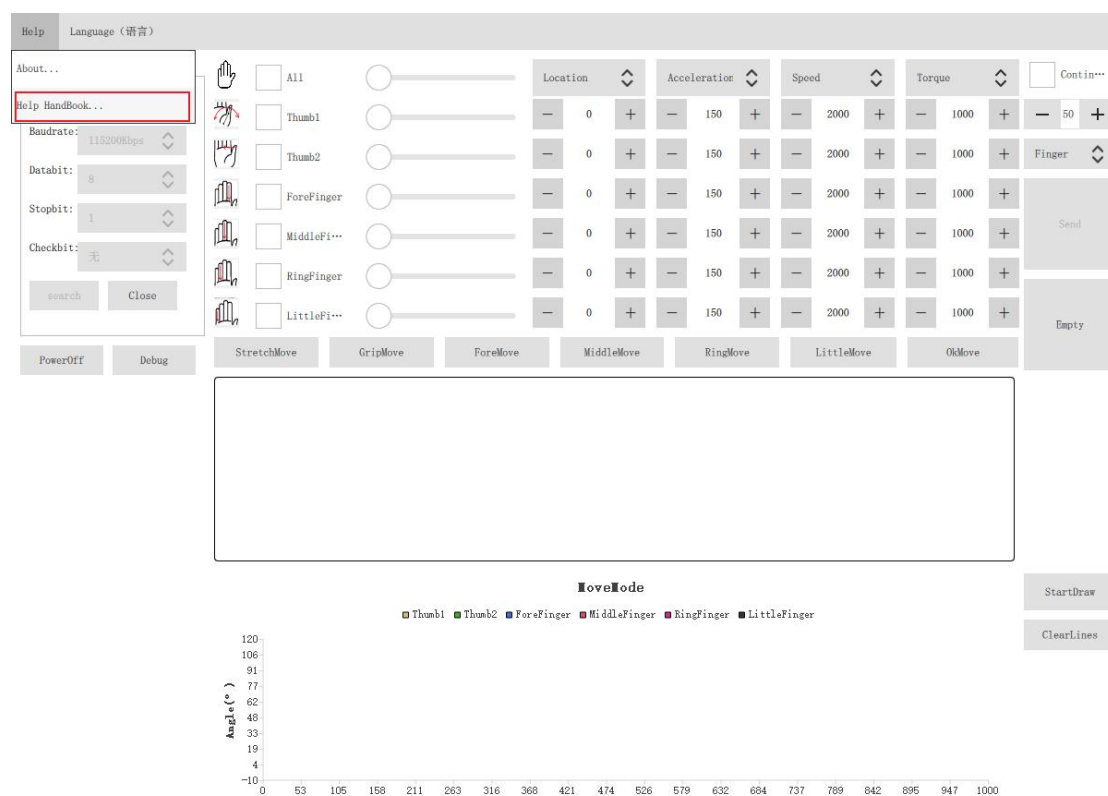
2.3.1 About

Click the "About" button to view the version number.

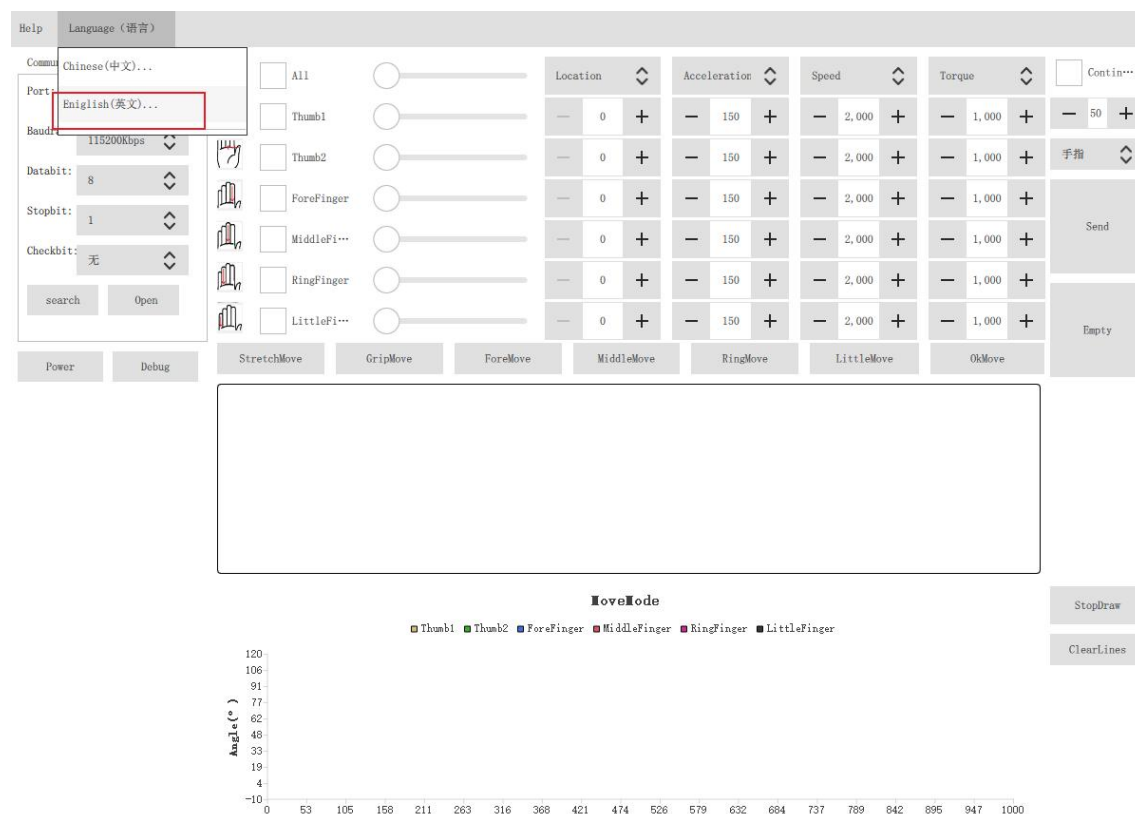


2.3.2 Help Manual

Check the user manual.



2.4Chinese-English version



3 Basic operation

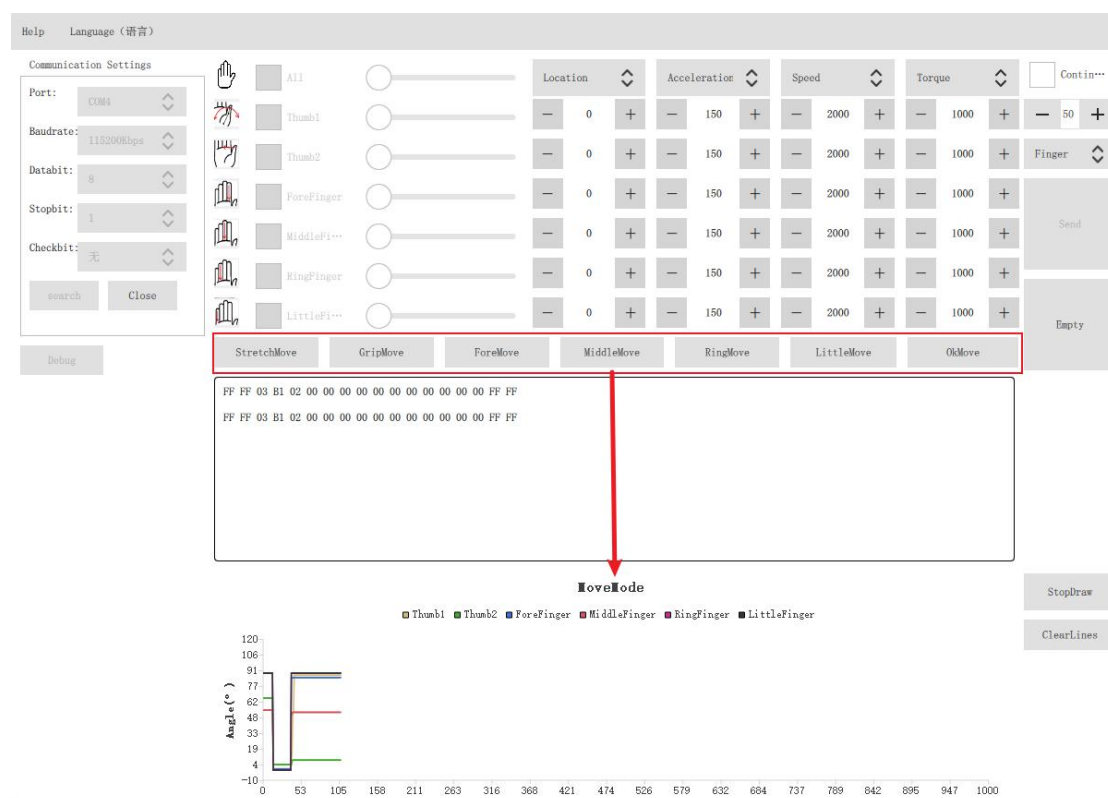
3.1 Open the serial port

Make sure to turn on the power, click the "search" button, the port number found will be added to the list in the main window, select the actual connected serial port, click open.



3.2 Six Movement Modes And Curve Display

Click the button in the box to move, and the curve will be drawn automatically. Click the "Stop Drawing" button to stop the curve. The horizontal coordinate indicates the time of drawing, and the vertical coordinate indicates the angular value of the movement of the six joints.



3.3Set Parameters

The operation process is shown in the following figure: The user can select the joint, parameter type and parameter value that need to be set to configure the manipulator.



3.3.1 Location Setting

Check the joint to be set and set the Angle value, usually the Angle of the joint is from 0-90

The screenshot displays the Ti5 Robot software interface for setting joint locations. The 'Communication Settings' panel on the left shows the port as COM4, baudrate as 115200bps, databits as 8, stopbits as 1, and checkbit as '无'. The joint selection area in the center has checkboxes for 'All', 'Thumb1', 'Thumb2', 'ForeFinger', 'MiddleFi...', 'RingFinger', and 'LittleFi...'. The 'ForeFinger' checkbox is checked. A red box highlights the 'ForeFinger' checkbox and the 'Location' dropdown menu, which is set to 30. A red arrow points from the 'ForeFinger' checkbox to the 'Location' dropdown. Below the table is a 'Send' button. At the bottom, there is a 'MoveMode' legend and a graph showing the angle of various joints over time.

MoveMode

Legend: Thumb1 (blue), Thumb2 (green), ForeFinger (red), MiddleFinger (purple), RingFinger (orange), LittleFinger (brown)

Graph: Angle (°) vs Time (ms). The graph shows the angle of various joints over time. The y-axis ranges from -10 to 120 degrees, and the x-axis ranges from 0 to 1000 ms. The 'ForeFinger' joint (red line) is set to 30 degrees.

3.3.2 Acceleration Setting

Select the joint to be set, the acceleration includes 1-200, and the default is 150 after power-on.

The screenshot displays the Ti5 Robot software interface for acceleration setting. On the left, the 'Communication Settings' panel is visible. The main area shows a list of joints: All, Thumb1, Thumb2, ForeFinger (selected), MiddleFi..., RingFinger, and LittleFi... Each joint has a corresponding slider and a 'Location' column with values like 29, 58, 56, 29, 29, 29. The 'Acceleration' dropdown menu is open, showing values 50, 100, 150, and 200. The '150' value is highlighted. The 'Speed' column shows a value of 2000. The 'Torque' column shows a value of 1000. The 'Contin...' column shows a value of 50. The 'Send' button is visible. Below the settings, a 'MoveMode' graph shows the angle (°) of various joints over time. The graph has a legend: Thumb1 (green), Thumb2 (blue), ForeFinger (red), MiddleFinger (purple), RingFinger (yellow), and LittleFinger (black). The y-axis is labeled 'Angle(°)' and ranges from -10 to 120. The x-axis ranges from 0 to 1000. The graph shows a step function where the angle of each joint changes at specific time intervals.

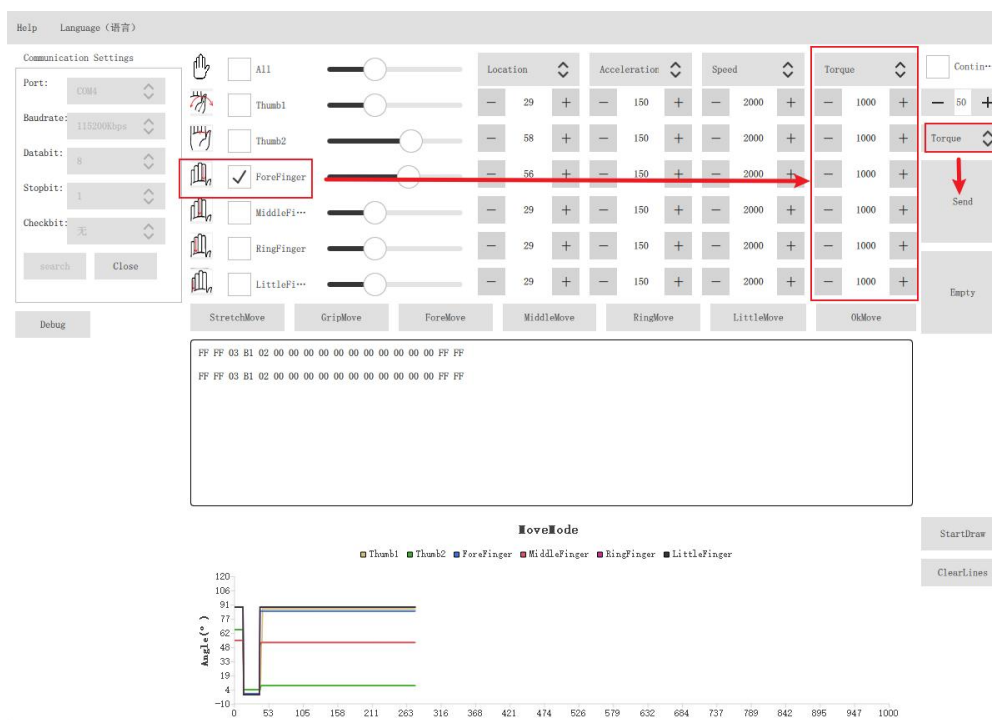
3.3.3 Speed Setting

Select the joint to be set. The speed ranges from 1 to 5000. The default startup time is 2000 after power-on.



3.3.4 Torque Setting

Check the joint to be set, the torque contains 1-1000, here the default power on after 1000.



3.3.5 Finger Mode Setting

The user selects the corresponding mode to define the setting parameters. The specific parameters are shown in the following figure.

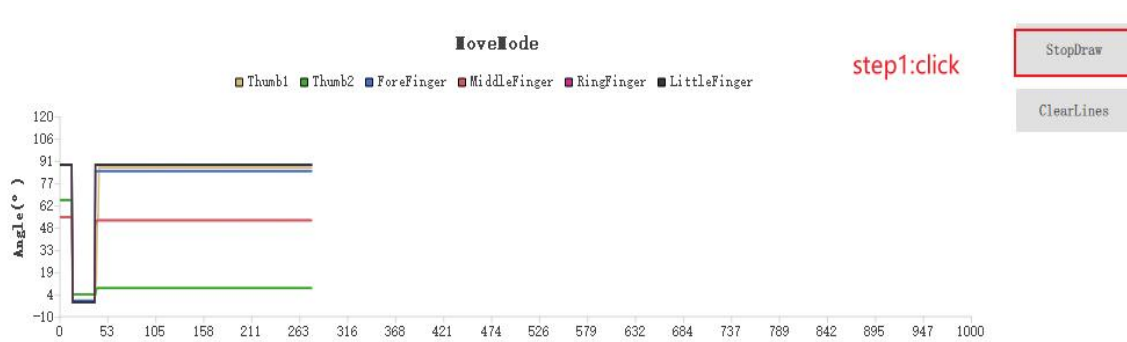


4 Set Internal Parameters

Users can modify other parameters such as manipulator motion limit and current.

4.1 Modification Procedure Description

Step1 Click the "Stop Painting" button



Step2.Click the "Parameter Settings" button

The screenshot shows the 'Parameter Settings' window. On the left, the 'Communication Settings' tab is active, showing fields for Port (COM4), Baudrate (115200bps), Databit (8), Stopbit (1), and Checkbit (无). Below these are 'search' and 'Close' buttons. A red box highlights the 'Debug' button. In the main area, there are sliders for 'All', 'Thumb1', 'Thumb2', 'ForeFinger', 'MiddleFi...', 'RingFinger', and 'LittleFi...'. To the right of these sliders are columns for 'Location', 'Acceleration', 'Speed', and 'Torque'. A red box highlights the 'step 2:click' button. At the bottom, there is a graph titled 'MoveMode' showing 'Angle (°)' vs 'Time' for various joints. A red box highlights the 'StartDraw' button. Below the graph is a 'ClearLines' button.

Step3 Select the ID you want to set

The screenshot shows the 'Parameter Settings' window. On the left, the 'Communication Settings' tab is active, showing fields for Port (COM4), Baudrate (115200bps), Databit (8), Stopbit (1), and Checkbit (无). Below these are 'search' and 'Close' buttons. A red box highlights the 'step 3 select joint id' button. In the main area, there are sliders for 'MinPos', 'MaxPos', 'CorrectPos', 'Uninstall Condition', 'ProtectTorque', 'ProtectTime', 'OverTorque', 'ProtectCircuit', 'OverCurrentTime', 'MaxOutputTorque', 'MinStartingForce', 'MaxTemp', 'MaxVoltage', and 'MinVoltage'. To the right of these sliders are columns for 'Location', 'Uninstall', 'Overload', and 'Work'. A red box highlights the 'step 4 select btn to change state' button. Below the sliders, there is a section for 'EEPROM' with a red box highlighting the 'EEPROM' button. A red box highlights the 'step 3 select joint id' button. Below the 'EEPROM' section, there is a text box with the text 'For details, see the agreement manually.'

Step4 Modify the internal status parameter values by module

Help Language (语言)

Communication Settings

Port: COM4

Baudrate: 115200bps

Databit: 8

Stopbit: 1

Checkbit: 无

search Close

PowerOff Debug

MinPos	300	300	Location
MaxPos	1600	1600	
CorrectPos	0	Number	

Enter the value you want to modify

Uninstall Condition	30	Number	Uninstall
---------------------	----	--------	-----------

ProtectTorque	0	Number	Overload
ProtectTime	0	Number	
OverTorque	30	Number	

ProtectCircuit	1000	Number	Overload
OverCurrentTime	0	Number	

MaxOutputTorque	1000	Number	Work
MinStartingForce	0	Number	
MaxTemp	50	Number	
MaxVoltage	50	Number	
MinVoltage	40	Number	

1 2 3 4 5 6

ID: 1

Voltage: 55

Temperature: 49

Load: 0

Location: 309

Unable

Now you can write.

Step5 Modify value

1, reference value description: indicates 1-6 joints, see 2.2 for specific instructions

1 2 3 4 5 6

ID: 1

Voltage: 70

Change reference values in real time

Temperature: 37

Load: 0

Location: 1646

Angle value Resets the reference value

Help Language (语言)

Communication Settings

Port: COM4

Baudrate: 115200bps

Databit: 8

Stopbit: 1

Checkbit: 无

search Close

Debug

MinPos 300 300

MaxPos 1600 1600

CorrectPos 0

Uninstall Condition 30 Number

ProtectTorque 0 Number

ProtectTime 0 Number

OverTorque 30 Number

ProtectCircuit 1000 Number

OverCurrentTime 0 Number

MaxOutputTorque 1000 Number

MinStartingForce 0 Number

MaxTemp 50 Number

MaxVoltage 50 Number

MinVoltage 40 Number

Location

ID: 1

Voltage: 70

Temperature: 37

Load: 0

Location: 1646

Uninstall

Overload

Overload

Work

1. Click the button so that the word 'Now you can write.' is displayed below the button.

2. After changing number, click 'Location' button.

4.2 Power On And Off

1、Power on and off: indicates the working state of the internal manipulator. The user is powered on by default.

Help Language (语言)

Communication Settings

Port: COM4

Baudrate: 115200bps

Databit: 8

Stopbit: 1

Checkbit: 无

search Close

PowerOff Debug

All

Thumb1

Thumb2

ForeFinger

MiddleFi...

RingFinger

LittleFi...

Location

Acceleration

Speed

Torque

Contin...

Send

Empty

StretchMove

GripMove

ForeMove

MiddleMove

RingMove

LittleMove

OtherMove

In the case of stopping the drawing, click any mode motion to appear the power-on and power-off button

MoveMode

Thumb1

Thumb2

ForeFinger

MiddleFinger

RingFinger

LittleFinger

StartDraw

ClearLines

Angle (°)

120

106

91

77

62

48

33

19

4

-10

0 53 105 156 211 263 316 368 421 474 526 579 632 684 737 789 842 895 947 1000